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SOV/149-60-1-15/27

AUTHORS: Sokolov, O. K., Belyaev, A. I.

TITLE: Physico,Chemical Properties of Cryolite-Alumina Melts at a Simultaneous Presence in them of Magnesium and Calcium Fluorides

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Tsvetnaya metallurgiya, 1960, Nr 1, pp 108-114 (USSR)

ABSTRACT: A study of physico-chemical properties of pseudo-ternary systems (I)  $n\text{NaF} \cdot \text{AlF}_3\text{-CaF}_2\text{-MgF}_2$  and (II)  $(n\text{NaF} \cdot \text{AlF}_3 + 5\% \text{ by wt } \text{Al}_2\text{O}_3)\text{-CaF}_2\text{-MgF}_2$  is of theoretical as well as practical interest. The study was undertaken from the following points of view: Fusibility. Magnesium and calcium fluorides, introduced in quantities of up to 15% into the above systems, depress the crystallization points in melts, magnesium fluoride to a greater extent than calcium fluoride. The temperature of the beginning of NaF crystallization was determined as 990°. Thirty-one

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Physico-Chemical Properties of Cryolite-Alumina Melts at a Simultaneous Presence in them of Magnesium and Calcium Fluorides

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melts of (I) and 32 melts of (II) were studied; results are shown in Fig. 1. The crystallization temperature of systems where  $n$  was 2.9 was  $5^{\circ}\text{C}$  higher than that of systems with  $n = 2.7$ . The authors refer to  $n$  as the cryolite number (c.n.). When c.n. is 2.5 and alumina is absent, the crystallization point is  $5^{\circ}\text{C}$  (with alumina,  $10^{\circ}\text{C}$ ) lower than that with c.n. 2.7. Density. At c.n. 2.7 and 2.9, addition of fluorides increases the density of melts. At c.n. 2.5, addition of magnesium fluoride (up to 10%) lowers the density of the melt but when 15%  $\text{MgF}_2$  and 5-15%  $\text{CaF}_2$  are added the density rises. In all these cases  $\text{MgF}_2$  increases the density of the melt to a lesser extent than  $\text{CaF}_2$ . Tests were made by hydrostatic weighing, using a platinum float of  $2.27 \text{ cm}^3$ . 19 tests were made with (I) and 13 tests with (II), both with c.n. 2.7. The results are shown in Fig. 2.

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Properties of Molten Fluoride Melts at a Simultaneous Presence  
in them of Magnesium and Calcium Fluorides

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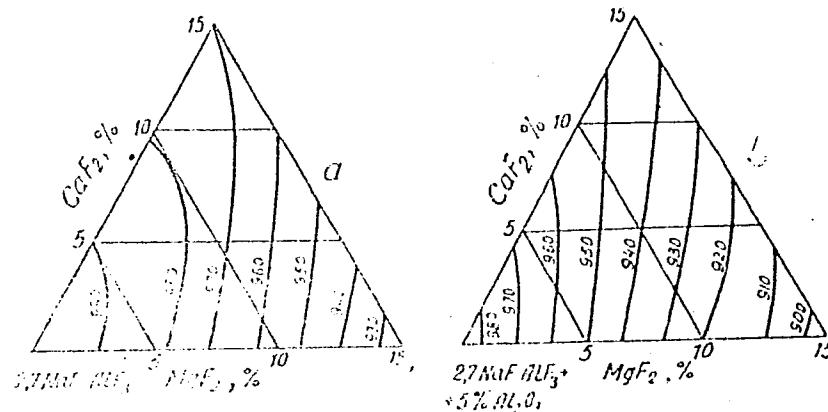


Fig. 1. Melting diagrams for pseudoternary systems (I) and (II),  $n = 2.7$ .

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physico-Chemical Properties of Cryolite-Alumina Melts at a Simultaneous Presence in them of Magnesium and Calcium Fluorides

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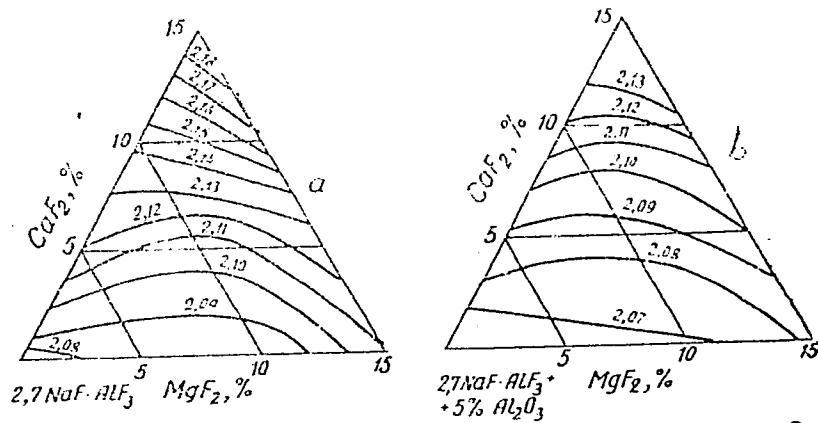


Fig. 2. Isotherms of melt densities at  $1,000^{\circ}C$  for pseudoternary systems (I) and (II),  $n = 2.7$ .

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Physico-Chemical Properties of Cryolite-Alumina Melts at a Simultaneous Presence in them of Magnesium and Calcium Fluorides

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Card 5/0

When c.n. is 2.9 or 2.5, the density of (I) at  $1,000^{\circ}\text{C}$  is 2.087 and 2.063 g/cm<sup>3</sup>, respectively. The corresponding figures for (II) are 2.068 and 2.044 g/cm<sup>3</sup>. The lesser effect of MgF<sub>2</sub> as compared to CaF<sub>2</sub> is due to the strong polarizing action of the Mg<sup>2+</sup> cation which promotes the formation of voluminous complex ions in the melt, loosening the structure of the latter. Electrical Conductivity. Ca and Mg fluorides introduced into the melts of pseudoternary systems in a max. quantity of up to 15% lower electrical conductivity, MgF<sub>2</sub> more so than CaF<sub>2</sub>. Tests were made with a balanced bridge and ac. The specific conductivity of cryolite was found to be  $2.66 \text{ ohm}^{-1}\text{cm}^{-1}$  at  $1,000^{\circ}\text{C}$ . Test results are shown in Fig. 3. When c.n. is 2.5 or 2.9, the conductivity maintains its character with the absolute values being lower in the former, and higher in the latter, case. Consequently,

Physico-Chemical Properties of Cryolite-Alumina Melts at a Simultaneous Presence in them of Magnesium and Calcium Fluorides

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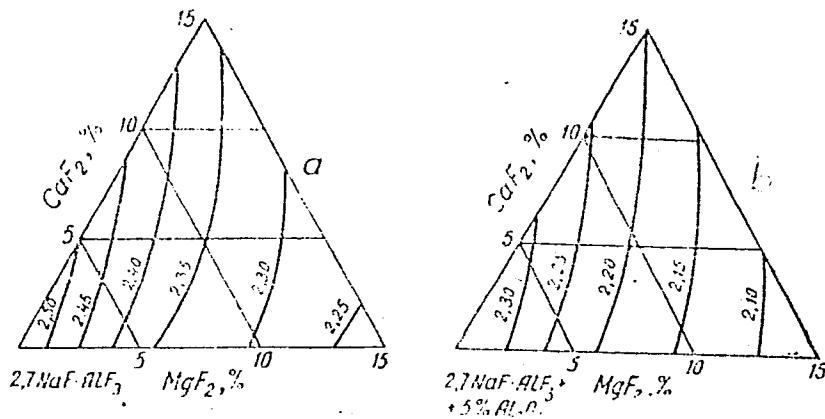


Fig. 3. Isotherms of specific electrical conductivity at 1,000°C for pseudoternary systems: (a) (I) (b) (II),  $n = 2.7$ .

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Physico-Chemical properties of C<sub>2</sub>Pyolite-Alumina Melts at a Simultaneous Presence  
in them of Magnesium and Calcium Fluorides

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for (I) at c.n. 2.5 it is  $2.37 \text{ ohm}^{-1} \text{cm}^{01}$ , and at c.n. 2.9,  $2.64 \text{ ohm}^{-1} \text{cm}^{-1}$ . For (II) the corresponding figures are 2.29 and  $2.43 \text{ ohm}^{-1} \text{cm}^{-1}$ . An addition of 10% CaF<sub>2</sub> changes the latter to 2.12 and 2.32, while an addition of 10% MgF<sub>2</sub> brings them to 2.02 and  $2.19 \text{ ohm}^{-1} \text{cm}^{-1}$ . Wetting Angles on Coal. These were measured optically in an argon atmosphere at  $1.010^{\circ}\text{C}$ . They increase when up to 15% Mg and Ca fluorides are added, the action of the former being stronger. Test results are shown in Fig. 4. With increased exposure the wetting angles decrease at a rate which depends on c.n. (the rate is higher at high c.n.) A greater activity of the Mg<sup>2+</sup> cation as compared to Ca<sup>2+</sup> cation is due to a smaller ionic radius of the latter and a greater density of its charge. In their conclusions the authors recapitulate the above findings, stating that the action of MgF<sub>2</sub> on meltability,

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Physico-Chemical Properties of Cryolite-Alumina Melts at a Simultaneous Presence in them of Magnesium and Calcium Fluorides

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SOV/149-60-1-15/27

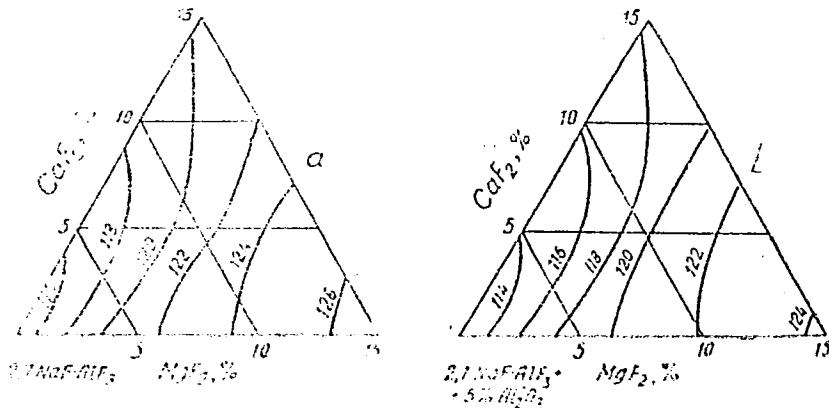


Fig. 4. Isotherms of contact wetting angles at  $1.010^{\circ}\text{C}$  on coal for pseudoternary systems: (a) (I) (b) (II),  $n = 2.7$ .

Physico-Chemical Properties of Cryolite-Alumina Melts at a Simultaneous Presence in them of Magnesium and Calcium Fluorides

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density, and wetting of cryolite-alumina melts is more favorable than that of  $\text{CaF}_2$ , whereas the opposite is true with regard to electrical conductivity. There are 4 figures; 1 table; and 4 Soviet references.

ASSOCIATION: Krasnoyarsk Institute of Nonferrous Metals. Chair of Metallurgy of Light Metals (Krasnoyarskiy institut tsvetnykh metallov. Афедра metallurgiyi legkikh metallov)

SUBMITTED: May 8, 1959

Card 9/9

SOKOLOV, G.N.; BILITAYEV, A.I.

Aluminum losses and current efficiency in cryolite-alumina  
slags containing calcium fluorides and magnesium. Izv.vys.ucheb.  
zav.; tsvet.met. 3 no.2:96-101 '60. (MIRA 15:4)

I. Krasnoyarskiy institut tsvetnykh metallov, kafedra metallurgii  
legkikh metallov.  
(Aluminum--Electrometallurgy)

SOKOLOV, O.K.; BELYAYEV, A.I.

Interaction of magnesium and calcium fluorides in cryolite melts  
during "hot" titration. Izv. vys. ucheb. zav.; tsvet. met. 3 no.4:  
58-64 '60. (MIRA 13:9)

1. Krasnoyarskiy institut tsvetnykh metallov. Kafedra metallurgii  
legkikh metallov.  
(Cryolite) (Titration) (Fluorides)

SOKOLOV, O.K.; BELYAYEV, A.I.

Free energy and the mechanism of the  $\text{NaMgF}_3$  complex compound formation. Izv. vys. ucheb. zav.; tsvet. met. 3 no.5:72-78 '60.  
(MIRA 13:11)

1. Krasnoyarskiy institut tsvetnykh metallov. Kafedra metallurgii  
legkikh metallov.  
(Sodium magnesium fluoride--Thermal properties)

31237  
S/149/61/000/C05/002/003  
A006/A101

S.4110

AUTHOR:

Sokolov, O. K.

TITLE:

Qualitative evaluation and correlation of electric conductivity and viscosity of molten salts

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 6,  
1961, 79 - 84

TEXT: It is supposed that the electric conductivity of molten salts is mainly determined 1) by the ability of the ion to loose mutual coordination, which depends on the distance between the anion and the cation and their valence and 2) by the mobility of ions in the melt, determined by their radius and valence. The force of mutual attraction  $F$ , which determines the distance between the anion and the cation, is used in estimating electric conductivity of the melts; it is calculated by formula

$$F = \frac{z_1 \cdot z_2 \cdot e^2}{d^2},$$

where  $z_1$  and  $z_2$  are the valences of the cation and anion;  $e$  is the electron charge, and  $d$  is the distance between the anion and cation centers in the salt crystal. It

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S/149/61/000/006/002/003  
AOC6/A101

Qualitative evaluation and correlation of...

is found that for melts containing monovalent cations and anions, electric conductivity is determined by the mobility of ions and increases with a smaller radius of the latter. If cation valences exceed one, the electric conductivity of the melt is determined by the interaction force between ions of opposite signs; it decreases with a stronger force of interaction. If there is one type of cation and different anions, electric conductivity of the melts increases with a smaller radius of anion, i. e. if the anion is replaced in any melt, electric conductivity is determined by the mobility of the latter. Viscosity of molten salts is also determined by the interaction forces of cations and anions, by taking into account the radius of the latter. The viscosity of molten salts (oxides) increases at a constant anion with stronger interaction forces between ions of opposite signs. If there is one type of cation and different anions in the melt, viscosity will increase with a higher valence of anions, and with a greater radius of the anion if the anion valences are equal. These concepts are confirmed by experimental data. The author considers that electric conductivity does not depend on the viscosity of the melt, contrary to the opinion that viscosity of the medium impedes the passage of current through the melt. He considers that both electric conductivity and viscosity are determined by the interaction force of ions of opposite signs.

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31237

S/149/61/000/006/002/003

A006/A101

Qualitative evaluation and correlation of...

It is shown that for salts with monovalent cations electric conductivity increases with the viscosity of melts, and for salts with multivalent cations the dependence is just the opposite. There are 3 tables, 1 figure and 5 Soviet-bloc references.

ASSOCIATION: Krasnoyarskiy institut tsvetnykh metallov (Krasnoyarsk Institute of Non-Ferrous Metals) Kafedra metallurgii legkikh metallov (Department of Metallurgy of Light Metals)

SUBMITTED: March 17, 1961

Card 3/3

SOKOLOV, O.K. (Moskva)

Formation of compounds in binary sulfide systems. Izv.  
AN SSR. Otd. tekhn. nauk. Met. i topl. no.1:54-55 Ja-F '62.  
(MIRA 15:2)

(Sulfides-Metallurgy)  
(Intermetallic compounds)

SOKOLOV, O.K. (Moskva)

Electric conductivity of fused salts with a monovalent cation.  
Izv.AN SSSR. Otd.tekh.nauk. Met.i topl. no.4:56-58 Jl-Ag '62.  
(MIRA 15:8)  
(Fused salts--Electric properties)

SOKOLOV, O.K.

Calculating the viscosity of fused salts (oxides). Izv.vys.ucheb.  
zav.; tsvet.met. 5 no.1:89-93 '62. (MIRA 15:2)

1. Krasnoyarskiy institut tsvetnykh metallov, kafedra metallurgii  
legkikh metallov.  
(Fused salts) (Viscosimetry)

SOKOLOV, O.K.

Estimating the surface activity of fused salts (~~oxides~~). Izv.vys.  
ucheb.zav.; tsvet.met. 5 no.3:67-70 '62. (MIRA 15:11)

1. Krasnoyarskiy institut tsvetnykh metallov, kafedra metallurgii  
legkikh metallov.  
(Surface chemistry) (Metallic oxides)

SOKOLOV, O.K.

Method of calculating the amount of ion exchange reaction products  
without change of the mole number. Izv.vys ucheb.zav.; tsvet.met.,  
5 no.5:48-53 '62. (MIRA 15:10)

1. Krasnoyarskiy institut tsvetnykh metallov, kafedra metallurgii  
legkikh metallov.  
(Ion exchange) (Molecular weights)

SOKOLOV, O.K.; EELYAYEV, A.I.

Evaluation of the probability of the formation of compounds in  
binary systems consisting of salts and oxides. Zhur.neorg.khim.  
7 no.6:1320-1327 Je '62. (MIRA 15:6)

1. Krasnoyarskiy institut tsvetnykh metallov imeni M.I.Kalinina,  
kafedra metallurgii legkikh metallov.  
(Systems (Chemistry)) (Complex compounds)

SOKOLOV, O.K.; BELYAYEV, A.I.

Applying crystal chemistry concepts to the interpretation of  
exchange decomposition reactions in melts. Zhur.neorg.khim.  
7 no.6:1328-1335 Je '62. (MIRA 15:6)

1. Krasnoyarskiy institut tsvetnykh metallov imeni M.I.Kalinina,  
kafedra metallurgii legkikh metallov.  
(Fused salts)

SOKOLOV, O.K. (Moskva)

Equation of calculating the products of ion exchange reactions  
occurring in melts with a change in the number of moles. Izv.  
AN SSSR. Otd. tekhn. nauk. Met. i gor. delo no.2:73-78 Mr-Ap '63.  
(MIRA 16:10)

SOKOLOV, O.K. (Moskva)

The surface tension of melts. Izv. AN SSSR, Otd. tekhn. nauk. Met.  
i gor. delo no.4:59-64 Jl-Ag '63. (MIRA 16:10)

SOKOLOV, O.K. (Moskva)

Effect of temperature on the electric conductivity of fused  
salts with a cation valence higher than 1. Izv. AN SSSR. Met.  
(MIRA 16:11)  
i gor. delo no.5:89-91 S-0 '63.

SOKOLOV, O.K.

Calculating the viscosity of fused salts (oxides) at various  
temperatures. Trudy Inst. met. no.12:85-89 '63. (MIRA 16:6)

(Fused salts) (Viscosimetry)

SOKOLOV, O.K.

Calculating the surface tension of molten halogenides on the  
boundary of an inert phase at its melting point. Izv. vys.  
ucheb. zav.; tsvet. met. 6 no.4:52-57 '63. (MIRA 16:8)

1. Institut metallurgii AN SSSR. Rekomendovana kafedroy chistykh  
metallov i poluprovodnikovykh materialov Moskovskogo instituta  
stali i splavov.  
(Halogen compounds) (Surface tension)

SOKOLOV, G.K. (Moskva)

Cryosocuy of meltz. Izv. AN SSSR Mat. i gorn. delo no.38(60)-106  
My-Je'64 (MIRA 1967)

SOKOLOV, O.K. (Moskva)

Temperatures of the fusion and boiling of salts. Izv. AN SSSR  
Met. i gor. delo no. 2858-42 Mr-Ap'64 (MIRA 1783)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652020009-6

SOKOLOV, O.K. (Mc.)

Structure of cast and slag melts. Izv. Akad. SSSR. Met. i gor. delo no. 5  
84-91 S-0 '64. (MIRA 18:1)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652020009-6"

SOKOLOV, O.K. (Moskva)

Calculating the surface tension of certain sulfides and oxides  
with a melting temperature bordering on the inert phase. Izv.  
AN SSSR. Mat. no.1:97-103 Ja-F '65. (MIRA 18:5)

PERELOMOV, A.V.; BORODIN, V.M.; LAVRINTSEVA, E.I.

Synthesis of difluorodiazines. Chem. Indus. Russ. 1986, No. 12, p. 1231  
(Khimiya 1986, No. 12).

SOKOLOV, O.M., student

Attachments for machining friction disks. Mekh. sil'. hosp.  
12 no.9:14-15 S '61. (MIRA 14:11)

1. Dnepropetrovskiy sel'skokhozyaystvennyy institut.  
(Lathes--Attachments)

L 12872-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS Ps-4/Pc-4/Pr-4 RM/WW/JW  
ACCESSION NR: AP3002942 S/0076/63/037/006/1399/1401 7/

AUTHOR: Pankratov, A. V.; Zercheninov, A. N.; Talakin, O. G.; Sokolov, O. M.; Knyazeva, N. A.

TITLE: Standard enthalpy of formation of the active isomer of difluorodiazine

SOURCE: Zhurnal fizicheskoy khimii, v. 37, no. 6, 1963, 1399-1401

TOPIC TAGS: standard enthalpy, active isomer, difluorodiazine, IR measurement

ABSTRACT: The standard enthalpy for the gaseous active isomer of difluorodiazine was calculated. It was  $25.3 + or - 2.0$  kcal/mol. It was  $20.5 + or - 2.0$  kcal/mol for the liquid at  $-105.7^\circ$ . Data was obtained by IR measurement of the heat of reaction of the active isomer with an acid solution of KI. Orig. art. has: 2 tables, 1 figure, and 3 equations.

ASSOCIATION: none

SUBMITTED: 22Aug62 DATE ACQ: 16Jul63 ENCL: 00

SUB CODE: CH NO REF Sov: 002 OTHER: 005

Card 1/1

L DRW-02-67 EWT(n)/EWP(t)/ETI IJP(c) JD/JW/JG  
ACC NR: AP6031749 SOURCE CODE: UR/0078/66/011/007/1497/1505

AUTHOR: Pankratov, A. V.; Sokolov, O. M.

29

B

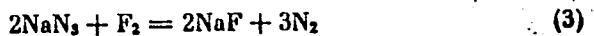
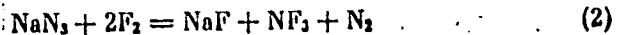
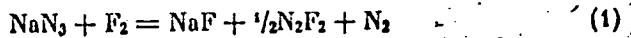
ORG: none

TITLE: Reaction of fluorine with sodium azide

SOURCE: Zhurnal neorganicheskoy khimii, v.11, no. 7, 1966, 1497-1505

TOPIC TAGS: fluorine, azide, sodium compound, halogen nitrogen compound

ABSTRACT: The reaction of fluorine with sodium azide produced cis and trans isomers of difluorodiazine, nitrogen trifluoride, nitrogen, and sodium fluoride. The yield of both difluorodiazine isomers and nitrogen trifluoride was studied as a function of the temperature in the reaction vessel, fluorine consumption, dilution of sodium azide with calcium fluoride, and dilution of fluorine with nitrogen. The optimum conditions for obtaining the best yields of difluorodiazines were determined. It was found that the following three consecutive-parallel reactions take place during the fluorination process:



Card 1/2

UDC: 546.16+546.33'171.8

L 08402-67  
ACC NR: AP6031749

A mechanism is proposed for these reactions which satisfactorily accounts for the experimental data. Orig. art. has: 7 figures, 3 tables and 12 formulas.

SUB CODE: 07/ SUBM DATE: 25Jul64/ ORIG REF: 003/ OTH REF: 004

Card 2/2

ACCESSION NR: AT4039461

S/2526/64/000/026/0129/0132

AUTHOR: Lyubchenko, G. I.; Sokolov, A. A. (Sokolov, A. A.)

TITLE: Increasing the accuracy in the automatic recording of temperatures

SOURCE: AN UkrSSR. Instytut teploenergetyky. Zbirnyk prats', no. 26, 1964.  
Teploobmin ta hidrodynamika (Heat exchange and hydrodynamics), 129-132TOPIC TAGS: temperature recording, thermometer, automatic thermometer, heat  
exchange

ABSTRACT: The authors describe a differential arrangement (see Figures 1 & 2 in the Enclosure) for increasing the accuracy in the measurement of temperatures which vary within narrow limits. In this arrangement, the sensor is connected to test circuit I, while circuit II is a resistance circuit. The voltage difference  $\Delta U = U_1 - U_2$ , taken from the test and resistance circuits, respectively, is recorded by an EPP-09 automatic potentiometer with an accuracy of  $\pm 0.5\%$ . The voltage  $U_2$  is measured by an R-375 potentiometer with an accuracy of  $\pm 0.04\%$ . By virtue of the fact that  $U_2$  is considerably greater than  $\Delta U$ , the final accuracy is substantially increased, being on the order of  $\pm 0.05 - 0.1\%$ . For the purpose of illustrating the operational principle of the arrangement, a digital example

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ACCESSION NR: AT4039461

and error analysis is given, involving the direct recording of temperature with an EMP-209 electronic bridge. The authors note that this device can be used in the experimental investigation of heat exchange processes. Orig. art. has: 2 figures and several formulas.

ASSOCIATION: Instytut teploenergetyky AN UkrRSR (Institute of Thermal Energ-  
tics, AN UkrRSR)

SUBMITTED: 28May62

DATE ACQ: 12Jun64

ENCL: 02

SUB CODE: EE, IE

NO REF Sov: 002

OTHER: 000

Card 2/4

ACCESSION NR: AT4039461

ENCLOSURE: 01

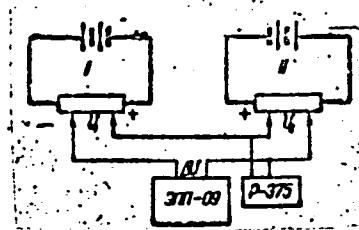


Fig. 1. Basic differential arrangement.

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ACCESSION NR: AT4039461

ENCLOSURE: 02

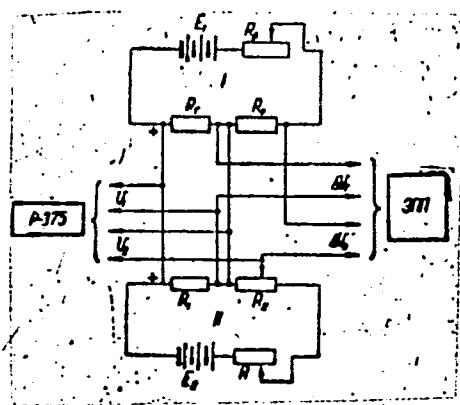


Fig. 2. Differential arrangement for the automatic recording of small temperature changes.

Card 4/4

SOKOLOV, O.T.

Thermal frequency compensation of quartz in crystal controlled  
transistor self-oscillators. Izv. vys. ucheb. zav.; radiotekh.  
7 no. 3:332-341 My-Je '64. (MIRA 17:9)

SOKOLOV, O.N.; ZUBREV, O.I.

Breaking away of stoppers. Metallurg. 9 no.10:25 0 '64  
(MIRA 18:1)

1. Metallurgicheskiy zavod "Serp i molot".

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652020009-6

Document 10 showing the worn out edges of the sinker box  
of Section 4 (2nd) re: 1000, File No. 1-32-33 Ja-Mr '65.  
(MIRA 18:4)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652020009-6"

"APPROVED FOR RELEASE: 08/25/2000

**CIA-RDP86-00513R001652020009-6**

Figure 1. The effect of the number of training samples on the performance of the proposed model.

...affectionately yours, & with love to the Factory.  
John S. Miller, Sept. 1884. (MIRA 1884)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652020009-6"

9.2560 (139,1159,1161)

28228  
S/194/61/000/005/072/078  
D201/D303

AUTHORS: Gavra, T.D. and Sokolov, O.T.

TITLE: The choice of operation of a transistor oscillator

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 5, 1961, 6, abstract 5 K31 (Nauchno tekhn. in-  
form. byul. Leningr. politekhn. in-t, 1960, no. 3,  
94-99)

TEXT: The problem is considered of choosing the operation of transistor oscillations and of their application at frequencies below the cut-off frequencies ( $f_u$  and  $f_p$ ). The results of experimental studies are given, carried out with crystal oscillators of various types, in common emitter and common base connections. The de-stabilizing factors were found to be: Changes in the d.c. emitter current, changes with respect to earth of the d.c. potential of the collector and circuit capacitances. The experimental data are given in the form of graphs. The supposition has been proved that certain res-

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23228  
S/194/61/000/005/072/078  
D201/D303

The choice of operation...

ults may be applied to the non-crystal oscillators, multipliers and  
to other types of transistor devices. 2 references. [Abstracter's  
note: Complete translation] *CK*

Card 2/2

S/194/61/000/009/052/053  
D271/D302

9,2583

AUTHOR:

Gavra, T.D. and Sokolov, O.T.

TITLE:

High stability junction transistor oscillator

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 9, 1961, 5-6, abstract 9 K32 (Nauchno-tekh. in-  
form. byul. Leningr. politekhn. in-t, 1960, no. 9,  
36-42)

TEXT: Operation of a quartz crystal transistor oscillator  
is studied, with the crystal excited in fundamental frequency and  
in the third harmonic. An equivalent circuit is derived of the os-  
cillator with the crystal in the feedback path. The matrix method  
is used in the theoretical analysis. An expression is given for  
detuning the piezo-resonator; an ideal feedback transformer is here  
assumed. Great attention is paid to the influence of de-stabilizing  
factors such as: a) operational instability and b) temperature in-  
stability. Theoretical derivation of a number of coefficients is

Card 1/2

S/194/61/000/009/052/053  
D271/D302

High stability junction...

associated with great difficulties because of the complex dependence of transistor parameters on the operational conditions and temperature. These problems (as applied to a series of transistors) are examined experimentally (at the frequency of 1000 kc/s). Experimentally determined dependence of frequency on collector voltage, emitter current, temperature, etc. is shown. 24-hour and short term frequency stability are considered. With optimal choice of circuit components, the scatter of transistor parameters has little effect on the frequency stability; frequency change when one transistor was substituted for another of the same series did not exceed 1.5 - 2 c/s; when transistors of different series were substituted, frequency change did not exceed 3 - 4 c/s. Stability is enhanced when quartz crystal is excited on harmonics. [Abstracter's note: Complete translation] ✓B

Card 2/2

ACCESSION NR: AP4042849

S/0142/64/007/003/0332/0341

AUTHOR: Sokolov, O. T.

TITLE: Compensating the temperature coefficient of the frequency of quartz in transistorized oscillator circuits

SOURCE: IVUZ. Radiotekhnika, v. 7, no. 3, 1964, 332-341

TOPIC TAGS: oscillator, temperature coefficient of frequency, transistorized oscillator, quartz crystal oscillator

ABSTRACT: The temperature compensation of a quartz-crystal resonator by a p-n-junction capacitance or by an XR-circuit is theoretically and experimentally investigated. Formulas for a "perfect compensation" are developed; four circuits intended for producing compensating voltage are analyzed. An experimental verification of the formulas on a p-n-capacitance compensated oscillator (see Enclosure 1) showed that the instability was 1/20th that of a noncompensated

Card 1/3

ACCESSION NR: AP4042849

oscillator. Compensation by an LR-circuit was somewhat inferior: max frequency drift was  $(4-6) \times 10^{-6}$ . The reasons for the discrepancy between theoretical and experimental results are explained. Orig. art. has: 8 figures and 40 formulas.

ASSOCIATION: none

SUBMITTED: 07Jan63

ENCL: 01

SUB CODE: EC

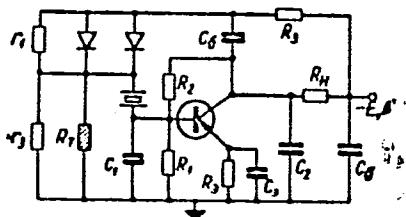
NO REF Sov: 005

OTHER: 002

Card 2/3

ACCESSION NR: AP4042849

ENCLOSURE: 01



An oscillator temperature-compensated by  
a p-n-junction capacitance

Card 3/3

PEYCHEV, G.P.; KORMILITSYN, N.S.; SMOLYARENKO, D.A.; YEFANOV, N.I.; SOKOLOV, O.N.

Open-hearth furnace temperature at the time of charging [with summary  
in English]. Stal' 18 no.11:993 N '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii  
proizvodstva i truda chernoy metallurgii (for Peychev, Kormilitsyn).
2. Staleplavil'naya sektsiya Nauchno-tehnicheskogo obshchestva chernoy  
metallurgii (for Smolyarenko, Yefanov, Sokolov).  
(Open-hearth furnaces)

S/130/62/000/001/002/5C4  
A006/A101

AUTHORS: Sokolov, O.N., Tunkov, V.P., Romin, I.I.

TITLE: Melting of charge iron in a basic open-hearth furnace

PERIODICAL: Metallurg, no. 1, 1962, 21 - 23

TEXT: A technology was developed for the production of charge iron with a carbon content less than 0.015% directly in an open-hearth furnace; the method consisted in carbon oxidation by the combined effect of iron ore and compressed air or oxygen blast to the pool. Experimental heats were made with oxygen and compressed air blast. The charge consisted of cast iron and rejects of low-alloy electric steel; aluminum was added into the ladle. When blowing oxygen through the pool the process of carbon oxidation from 0.64 to 0.014% lasted 1.30 minutes; blowing time was 13 minutes. When using compressed air, carbon oxidation time was 1.47 minutes and blowing time was 12 minutes. The composition of the finished metals was for case 1 (in %): 0.014 C, 0.018 Mn, traces of Si; 0.015 S; 0.007 P; 0.14 Ni, traces of Cr and 0.15 Cu; and for case 2: 0.014 C; 0.019 Mn, traces of Si; 0.010 S; 0.007 P; 0.15 Ni; traces of Cr and 0.18 Cu. ✓

Card 1/2

VOLKOVA, Ye.A.; DUBROV, Ye.F.; SOKOLOV, O.N.; Prinimali uchastiye: PEYBO, I.V.;  
BULATOVA, Zh.M.; VITULIN, B.K., glavnnyy red.; CHASHNIK, V.M., otv.red.;  
REYKHERT, L.A., vedushchiy red.; DODONOVA, L.P., red.; KONDYURINA,  
Ye.N., red.; FEDOROV, S.S., tekhn.red.

[Problems in acoustical logging] Voprosy akusticheskogo karotazha.  
Leningrad, Gostoptekhizdat, 1962. 151 p. (Geofizicheskoe  
priborostroenie, no. 13). (MIRA 16:8)  
(Prospecting--Geophysical methods)

SERGEYEV, L. A.; BOYAROYTS, A. A.; CHURLIN, V. V.; SOKOLOV, O. N.

Acoustical pulse logging of a cased well. Geol. nefti i gaza 7  
no.1:56-60 Ja '63. (MIRA 16:1)

(Oil well logging, Acoustical)

DUBROV, Ye.F.; SOKOLOV, O.N.

Method of geoacoustic sounding. Sov. geol. ? no.31109-  
113 Mr '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i  
tekhniki razvedki.

ACCESSION NR: AR4008227

S/0169/63/000/011/v011/v011

SOURCE: RZh. Geofizika, Abs. 11V77

AUTHOR: Abramov, Ye. P.; Sokolov, O. N.

TITLE: Experience in the use of sonar for the geologic mapping of ocean bottoms

CITED SOURCE: Sb. Geofiz. priborostr. Vy\* p. 15. L., Gostoptekhizdat, 1963,  
116-128

TOPIC TAGS: hydrography, Black Sea bottom deposit, sonar mapping, sea bottom  
sonar mapping, Azov Sea bottom deposit, sonar geologic mapping, ocean bottom  
sonar mapping, GEL-2 sounding device, sea bottom geologic structure, sea bottom  
stratigraphy

TRANSLATION: The Black and Azov Sea regions, promising from the standpoint of  
tideland oil and gas deposits, have recently been surveyed with a powerful  
modernized depth sounder to determine bottom deposit thicknesses and composition.  
A working model of the sounder used two deep-water sounding devices of the GEL-2  
type. The equipment was placed at a depth of 0.8 m on a 200-ton diesel schooner

Card 1/2

ACCESSION NR: AR4008227

(maximum load line depth -- 2.85 m, speed -- 9.5 knots). The radiation angle in the water was 11°. The experiments showed that in areas of the bottom with exposed Tertiary clay-sand deposits, the geological cross-section may be determined to a depth of 20-30 m by this method. The sounding sections show good correlation with the geological ones. The strong shielding effect of modern deposits even of small thickness (several tens of centimeters in the case of sand) is noted. The method is considered promising when used in conjunction with aerophotogeological surveying techniques. Yu. Alekseyev.

DATE ACQ: 09Dec63

SUB CODE: AS

ENCL: 00

Card 2/2

S/130/61/000/003/002/008  
AC06/AC01

AUTHORS: Kudrin, V.A., Vinnichenko, Ye.V., Sviderskiy, G.V., Tunkov, V.P.,  
Sokolov, O.N.

TITLE: Processing of Liquid Steel With Solid Synthetic Mixtures

PERIODICAL: Metallurg, 1961, No. 3, pp. 16 - 17

TEXT: A series of experimental heats were carried out on furnaces of an open-hearth shop at the "Serp i molot" plant. The investigation was made for the purpose of revealing the possibility and expediency of treating steel with solid synthetic mixtures. The following composition of a desulfurizing mixture was selected (in %): Freshly burnt lime 70 - 75; fluorspar 25 - 28; crushed aluminum 0 - 4. The consumption was 8 - 11 kg/ton of steel. The components of the mixture were crushed manually, and fluorspar was preheated in a mold. The mixture was supplied to the metal jet when leaving the furnace, partly from a bin with 45% ferrosilicon, partly by hand. Data given in Table 1 show that the sulfur content was reduced by 28% on the average, after treating the metal with the synthetic mixture, in relation to the sulfur content prior to that. Desulfurization process is somewhat intensified at a higher carbon content. An analysis of results ob-

Card 1/2

S/120/61/000/003/002/008  
AC06/AC01

Processing of Liquid Steel With Solid Synthetic Mixtures

tained from the experiments has shown that the content of non-metallic impurities in the metal that was treated with the mixture or not treated, is equal. CaO was not revealed in the impurities. An analysis of the experimental heat metal, as to the hydrogen content depending on the moisture of the mixture, shows that a moisture up to 1.5% H<sub>2</sub>O, does practically not affect the hydrogen content in the metal. Results of mechanical tests are given in Table 2. It was found that the efficiency of open hearth furnaces can be raised by 10-15% when treating high-quality instrument steel with synthetic mixtures. This is due to a reduced bubbling time required to assure metal desulfurization in heats of conventional technology. The cost price of steel is correspondingly reduced by 2 - 2.5%. The degree of desulfurization depends only slightly on the sulfur content in the ladle prior to treatment. It decreases in the case when the heat is teemed at the lowest metal temperature limit for the given jet, to prevent metal splashing in case that components of higher moisture should fall into the ladle. Supply of the mixture should be started after teeming into the ladle about one fourth of the heat; it should be completed prior to the formation of slag. The mixture can not be supplied to the ladle bottom prior to teeming the heat, because of safety conditions.

ASSN: Moscow Steel Inst.; Zavod "Serp i Molot"

Card 2/2

SOURCE: . . .

PRUDOV, N. V. -"A List Forest Chart and Procedure for its Compilation."\*(Dissertation for Degree in Science and Literature, defended at All Higher Forest and Institutions, Min. of Higher Education, USSR, Novosibirsk Inst. of Engineers of Forestry, Aerial Photography, and Cartography, Novosibirsk, 1955)

cc: Krizimaya letopis', N°. 25, 10 Jun 55

\* For Degree of Doctor of Technical Sciences

SOKOLOV, O.V.

Hand-drawn maps of Siberian forests. Izv.Novosib.otd.Geog.ob-va  
SSSR no.1:79-85 '57. (MIRA 12:4)  
(Siberia--Forests and forestry--Maps)

YEGOROV, Vladimir Vasil'yevich; SOKOLOV, Oleg Viktorovich; TARNOVSKIY,  
Lev Fedorovich; ROGOV, A.B., red.; SHAFAROVA, T.A., red. izd-va;  
SUNGUOV, V.S., tekhn. red.

[Compiling and editing maps] Sostavlenie i reduktirovanie kart.  
Moskva, Geodezizdat, 1962. 238 p. (MIRA 1:10)  
(Maps, Topographic) (Cartography)

S/058/000/001/020/120  
A062/A101

AUTHOR: Sokolov, O. V.

TITLE: Capture of electrons into acceleration in a 15 MeV betatron  
operating with two injectors

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 41, abstract 1A<sup>388</sup>  
(In collection: "Elektron. uskoriteli". Tomsk, Tomskiy un-t,  
1961, 69 - 74)

TEXT: The process of electron capture into acceleration conditions in a  
15 MeV dual injector betatron was studied. The dependences of the  $\gamma$ -emission  
intensity on the injection current were plotted for the operation of each injec-  
tor separately and also for the simultaneous operation of the two injectors to-  
gether (in the latter case the current of one of the injectors had a constant  
value). The length of the leading front of injection pulses was 0.5  $\mu$ sec; that of  
the back front - 2  $\mu$ sec, and of the flat portion - 3  $\mu$ sec; the pulse amplitude  
was 12 kV. An analysis of the curves obtained shows that the capture of electrons  
into acceleration depends on the azimuthal distribution of the space charge formed

Card 1/2

SOKOLOV, O.V.

Effect of an inhomogeneity in a magnetic field on the capture  
of electrons for acceleration in a betatron. Izv.vys.ucheb.zav.;  
fiz. no.3:98-102 '63. (MIRA 16:12)

1. Tomskiy politekhnicheskiy institut imeni S.M.Kirova.

SOKOLOV, O.V.; BLISKUNOVA, N.A., dots., red.

[Generation and measurement of a vacuum] Poluchenie i izmerenie vakuma; uchebnoe posobie. Leningrad, Leningradskii elektrotekhn. in-t, Pt.1. 1963. 159 p. (MIRA 17:7)

L 64798-65 EWT(m) DIAAP

ACCESSION NR: AR5004537

S/0275/64/000/011/A053/A053

621.384.6

SOURCE: Ref. zh. Elektronika i yeye primeneniye. Svodnyy tom, Abs. 11A336

22

44,55

44,55

B

AUTHOR: Gorbunov, V. I.; Nedavniy, O. I.; Sokolov, O. V.

44,55

TITLE: Measuring the betatron energy of bremsstrahlung 19, 44, 55

CITED SOURCE: Sb. elektron. uskoriteli. M., Vyssh. shkola, 1964, 302-305

TOPIC TAGS: betatron, bremsstrahlung measurement 9m

TRANSLATION: An instrument has been developed and built for measuring the radiation energy; the phase-shift compensation in this instrument is effected by means of a delay. A principal circuit is presented, and the operation of its elements is considered. The instrument calibration based on the absolute method of measurement of maximum quantum energy in a bremsstrahlung spectrum was made according to the threshold reactions ( $\gamma$ , n). Copper (with a threshold reaction at 10.85 Mev) and carbon (18.6. Mev) were selected as specimens.

SUB CODEL NP, EC

aum

Card 1/1

Lihl8-66 EWT(1)

ACC NR: AP5024171

SOURCE CODE: UR/0115/65/000/008/0056/0057

AUTHOR: Pelykh, N. A.; Sokolov, O. V.

ORG: none

TITLE: Thermistor bridge of the M4-1 (MTO-1) type for operation with wire bolometers

SOURCE: Izmeritel'naya tekhnika, no. 8, 1965, 56-57

TOPIC TAGS: thermistor, bolometer

ABSTRACT: The direct-reading thermistor bridge of the M4-1 (MTO-1) type, which has a lower measurement limit of 15  $\mu$ w, was modified so that it can be used with wire bolometers. A circuit of the modified version is given, and the modifications are described. The gain of the power control system is approximately  $10^5$ , as compared to 200 for the old system. To prevent self-oscillations arising because of the high gain, the galvanometers are overdamped. Power supplied from external d-c sources and a modified photomultiplier circuit improve the stability and decrease the total error of the thermistor bridge. The instrument is 14 kg lighter as a result of the replacement of the power supply unit. Orig. art. has: 1 figure. [08]

SUB CODE: EC/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 000/ ATD PRESS: 4125

Card 1/1

32-24-6-36/44

AUTHORS: Kuznetsov, Ye. S., Sokolov, O. V.

TITLE: The Use of Casts in Measuring the Wear of Parts (Ispol'zovaniye slepkov pri izmerenii iznosa detaley)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 6, pp 774 - 775 (USSR)

ABSTRACT: The method of grooves (impressions) is much used in these measurements by applying them onto the surface to be investigated by means of a square diamond pyramid. A method for the determination of the dimensions of grooves by special casts, which can later be measured under the microscope, was developed. The casts of transparent celluloid proved to be of the greatest advantage; in this connection a maximum measuring deviation of 2 % is given. It is recommended to stick to the square shape of the celluloid film; its thickness should be the 10 ~ 15-fold of the depth of the groove, and its lateral length about 20 times that of the groove diagonal. After pretreatment the humid film is pressed onto the groove for 15 ~ 30 seconds, drying being accelerated by

Card 1/2

32-24-6-36/44

The Use of Casts in Measuring the Wear of Parts

a heating lamp. The present method is especially effective in tests during operation as stopping of machines, of the mechanism, or of the plant can be reduced to a minimum, and because no dismantling or direct measurements on parts has to be carried out.

1. Machines--Maintenance    2. Metals--Test methods    3. Celluloid  
--Applications

Card 2/2

KUZNETSOV, Yevgeniy Semenovich. Prinimali uchastiye: KUROPTEV, V.T.; LEYDERMAN, S.R.; NOSOV, L.I.; PLEKHANOV, I.P.; PLESHAKOVA, T.I.; SALOSHIN, N.P.; SOKOLOV, O.V.; SHIBIN, P.V.; YAKOVLEV, A.V.. MARTENS, S.L., red.; ZUYEVA, N.K., tekhn.red.

[Efficient conditions for the maintenance of motor vehicles and methods for its improvement] Ratsional'nye rezhimy tekhnicheskogo obsluzhivaniia i metodika ikh korrektirovaniia. Moskva, Avto-transizdat. Pt.1. [Every day and the first maintenance of motor vehicles] Ezhednevnoe i pervoe tekhnicheskoe obsluzhivanie. 1958.  
(MIRA 13:5)  
35 p.  
(Motor vehicles--Maintenance and repair)

KUZNETSOV, Yevgeniy Semenovich. Prinimali uchastiye: RYTCHENKO, V.I.;  
ORLOV, V.P.; RUBETS, D.A.; ZAYATS, T.P.; KUROPTEV, V.T.;  
LEYDERMAN, S.R.; NOSOV, L.I.; SKOLOV, O.V.; TULJKOV, G.E.;  
SHIBIN, P.V. LESNYAKOV, F.I., red.; DONSKAYA, G.D., tekhn.red.

[Efficient systems of maintenance and methods for their correction]  
Ratsional'nye rezhimy tekhnicheskogo obsluzhivania i metodika ikh  
korrektirovaniia. Moskva, Avtotransizdat. Pt.2. [Second stage of  
motor vehicle maintenance] Vtoroe tekhnicheskoe obsluzhivanie.  
1960. 98 p.  
(Motor vehicles--Maintenance and repair)

(MIRA 14:3)

SOKOLOV, Oleg Vladimirovich, inzh.; YABLOKOV, V.I., red.;  
BODANOVA, A.P., tekhn. red.

[Investigating the performance of motor-vehicle mechanisms  
under operating conditions] Issledovanie rezhimov raboty  
mekhanizmov avtomobilia v ekspluatatsionnykh usloviakh.  
Moskva, Avtotransizdat, 1963. 39 p. (MIRA 16:12)  
(Motor vehicles--Testing)

SOKOLOV, P., kand.med.nauk

Our gas mask is a half century old. Voen.-znan. 41  
no.12:27 D '65. (MIRA 18:12)

SOKOLOV, P.A.

Resistance. Ohm's law (Method for presentation in the 7th grade). Fiz.v  
shkole 7 no.4:35-42 '53. (MLRA 6:11)

1. Rostov-na-Donu, Pedagogicheskiy institut.

(Ohm's law)

USSR / Human and Animal Morphology (Normal and Pathological).  
Methods and Techniques of Investigation.

S

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 2868

Author : Sokolov, P. A.

Inst : Rostov-on-Don Medical Institute

Title : Contrast Media for Preparing Roentgen-Anatomic and  
Transilluminated Specimens

Orig Pub : Tr. Otchetn. nauchn. konferentsii, (Rostovsk.-n/D.  
med. in-t) za 1956 g. Rostov-na-Donu, 1957, 133-136

Abstract : Lead contrast media, representing a combination of  
media of Gaukh, Khazin and Shor, were proposed and  
tried out during a long period of time. Good results  
were noted in studies of blood vessels by the methods  
of radiography, transillumination and dissection.

Card 1/1

SOKOLOV, P. A., Cand of Med Sci -- (diss) "On changes in the region of the navel ring  
of newborn babies in the forensic-medical respect." Moscow, 1957, 12 pp (Second Moscow  
Medical Institute im Stalin), 250 copies (KL, 29-57, 93)

Санкт-Петербург

Materials for continuous cerebral angiography. Technique and  
methodology. Report No.1. Subj.med. students, St. Petersburg  
Med. Inst.  
(MIR) 18:5

1. Kafedra sotsioboy meditsiny (zav. - dozent P. A. Sokolov)  
Mittinskogo meditsinskogo instituta.

BUTOMA, B.Ye.; SOKOLOV, P.A.; BALAYEV, D.N.; SERGEYEV, N.M.; SHUMSKIY, K.A.; TYAPKIN, M.Ya.; SMIRNOV, V.A.; PIROGOV, N.I.; FEDOROV, N.A.; GOLYASHKIN, G.S.; KUZ'MIN, A.P.; AKULINICHESKII, V.P.; brigadir; GORBENKO, Ye.M.; BYSTREVSKIY, L.M., inzh.; STEPANOV, P.S., brigadir; Us, I.S., brigadir-sudosborshchik, deputat Verkhovnogo Soveta SSSR; USTINOV, P.D., slesar'-sborshchik; FINOGENOVA, N.Ya., tokar'; LERNER, M.; ALEKSEYEV, R.Ye.; SIVUKHIN, K., starshiy master; OSTAF'YEV, A.I.; TROFIMOV, B.A., inzh.; KOVRYZHIN, V.F., inzh.; MOISEYEV, A.A., prof.; GOLUBEV, N.V.; MOGILEVICH, V.I.; ANDRIYUTIN, V.I.; ANDRIYEVSKIY, M.I.; MATSKEVICH, V.D., dots.

Shipbuilders prepare for the 21st Extraordinary Congress of the CPSU.  
Sudostroenie 25 no.1:1-25 Ja '59. (MIRA 12:3)

1. Predsedatel' Gosudarstvennogo komiteta Soveta Ministrov SSSR po sudostroyeniyu, ministr SSSR (for Butoma).
2. Nachal'nik upravleniya sudostroitel'noy promyshlennosti Lensovnarkhoza (for Sokolov).
3. Direktor Baltiyskogo sudostroitel'nogo zavoda im. S.Ordzhonikidze (for Balayev).
4. Nachal'nik tsekhov Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Sergeyev, Shumskiy).
5. Nachal'nik mekhanicheskogo tsekhov Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Tyapkin). (Continued on next card)

BUTOMA, B.Ye.---(continued) Card 2.

6. Brigada kommunisticheskogo truda Baltiyskogo sudostroitel'nogo zavoda im. S. Ordzhonikidze (for Smirnov).
7. Glavnnyy inzhener Admiralteyskogo sudostroitel'nogo zavoda, Leningrad (for Pirogov).
8. Glavnnyy inzhener sudostroitel'nogo zavoda im. A.A. Zhdanova (for Fedorov).
9. Nachal'nik elektrodnogo tsekha Sudostroitel'nogo zavoda im. A.A. Zhdanova (for Golyashkin).
10. Nachal'nik tsekha kommunisticheskogo truda sudostroitel'nogo zavoda im. A.A. Zhdanova (for Kuz'min).
11. Malyarnyy tsakh sudostroitel'nogo zavoda im. A.A. Zhdanova (for Akulinichev).
12. Glavnnyy inzhener Nikolayevskogo sudostroitel'nogo zavoda im. I.I. Nosenko (for Gorbenko).
13. Nikolayevskiy sudostroitel'nyy zavod im. I.I. Nosenko (for Bystrevskiy, Us, Ustinov, Finogenova).
14. Slesarno-shborochnaya brigada Nikolayevskogo sudostroitel'nogo zavoda im. I.I. Nosenko (for Stepanov).
15. Zamestitel'nachal'nika konstruktorskogo byuro sudostroitel'nogo zavoda "Krasnoye Sormovo" (for Lerner).
16. Glavnnyy konstruktor konstruktorskogo byuro sudostroitel'nogo zavoda "Krasnoye Sormovo" (for Alekseyev).
17. Sudostroitel'nyy zavod "Krasnoye Sormovo" (for Sivukhin).
18. Direktor sudostroitel'nogo zavod "Leninskaya kuznitsa" (for Ostaf'yev).
19. Sekretar' partkoma TSentral'nogo nauchno-issledovatel'skogo instituta (for Trofimov). (Continued on next card)

BUTOMA, B.Ye.--(continued) Card 3.

20. Predsedatel' Leningradskogo oblastnogo pravleniya Nauchno-tehnicheskogo otdela sudostroitel'noy promyshlennosti (for Moiseyev).
21. Glavnnyye inzhenery Konstruktorskogo byuro (for Golubev, Andryutin).
22. Glavnyy konstruktor Konstruktorskogo byuro (for Mogilevich).
23. Nachal'nik TSentral'nogo tekhniko-konstruktorskogo byuro (for Andriyevskiy).
24. Zamestitel' direktora Leningradskogo korablenstroitel'nogo instituta po uchebnoy chasti (for Matskevich).

(Shipbuilding)

SOKOLOV, P. A.

"Built-up Geodetic Signals From Concrete Construction," by  
P. A. Sokolov and Ya. M. Pal'm, Tr. Novosibir. in-ta. inzh.  
geod., aerofotos'yemki i kartogr., No 7, 1956, pp 21-28  
(from Referativnyy Zhurnal -- Astronomiya, Geodeziya, No 2,  
Feb 57, Abstract No 1642)

To save structural wood and rolled steel in industrial and forestless regions, the use of built-up geodetic signals with instrumental pyramids of concrete girders and with demountable wooden or metallic external pyramids is suggested. Examples are given for computing 3- or 4-faced pyramids, and for construction of a Duran to the 12-m signal, and drawings are included.  
(u)

SUM. 1360

KOLOSOVA, A.A.; SOKOLOV, P.A.

In memory of Konstantin Aleksandrovich Lavrov, 1903-1962.  
Arkh. anat., gist. i embr. 44 no.6:125-126 Je '63.  
(MIRA 17:7)

ACC NR: AP7002178

SOURCE CODE: UR/0146/66/009/006/0078/0082

AUTHOR: Sokolov, P.A.

ORG: Moscow Physico-engineering Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: Logic circuits using branching magnetic circuits

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 6, 1966, 78-82

TOPIC TAGS: magnetic circuit, logic circuit, *Hysteresis loop*

ABSTRACT: The capabilities are analyzed of multiaperture magnetic devices which contain many magnetic circuits on a single plate (see Fig. 1) made of a magnetic material with rectangular hysteresis loop. In these devices nonmagnetic elements are used only for data transmission and power supply. The circuits are based on the principle of flux transfer between many possible paths in two steps (restoring and working cycles). Flux control using the local saturation method is insensitive to magnetic parameter tolerances and it is uninfluenced by the magnitude of control currents. A typical magnetic circuit of this type is shown in Fig. 1. The path abc is common to all circuits; paths 1-1, 2-2, 3-3, and 4-4 are logic circuits selected by input signals applied to wires (not shown) which pass through individual small apertures. Selection of one circuit is

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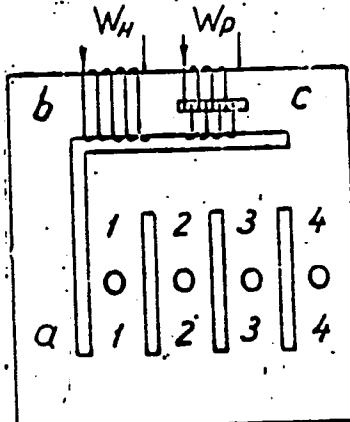


Fig. 1. Multiaperture magnetic circuit.

accomplished by inhibiting all others. During the restoring cycle large demagnetizing currents are applied to all circuits and winding  $W_p$ . During the working cycle a single path is magnetized by applying inhibit currents to the other branches and to winding  $W_H$ . Output signals are available at windings in the logic branches of the circuit (not shown). Tests using a  $6 \times 6 \times 2$ -mm sample 0.3 FPT material with a squareness ratio of 0.90 have shown that the quality of control is enhanced when large inhibit currents (1 amp/cm in the aperture circumference) are used. [BD] [WA-81]

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Card 2/2

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(Airplanes--Design and construction)  
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"Tannide-Containing Plants of the Kara-Kum Desert." Cand Biol Sci,  
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Conference at the V.L. Komarov Botanical Institute of the Academy  
of Sciences of the U.S.S.R. on plant resources. Bot.zhur. 40 no.2:  
305-314 Mar-Apr '55. (MLRA 8:7)  
(Botany, Economic)

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Tannin-bearing plants of Kara Kum. Trudy Bot.inst.Ser.5 no.4:171-244  
'56. (Kara Kum--Tannins) (MLRA 9:6)

USSR / Cultivated Plants, Technical, Oleaceous, Sugar Bearing M-6  
 Plants.

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58683  
 Author : Yegorov, B. A.; Pervukhin, F. S.; Sokolov, P. D.  
 Inst : Botanical Inst.-t, Acad. Sci., USSR  
 Title : Problems Pertaining to the Study of Tannin Bearing  
 Plants  
 Orig Pub : Botan. zh., 1956, 41, No 9, 1407-1409

Abstract : The results of studies of conferences on plant resources of the USSR, conducted in 1954, and on cultivation of new useful plants, conducted in 1956 under the auspices of the Botanical institute, Acad. Sci., USSR are explained. It is indicated that the tannin-extracting industry must increase the planned production of tannides in the sixth five year period by 25% in comparison with 1954. Along with non-marketable

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oak wood pulp, the industry utilizes presently the bark of spruce, willow, larch, roots of bistort, sea lavender, rhubarb (chukhra) and leaves of smoke tree in small quantities. It is necessary to strengthen the coordination of studies of tannin bearing plants between various scientific-research institutions and to improve their connection with production organizations. It is necessary to develop a speedy and accurate method of quantitative determination of tannins. Attention is drawn on increasing work with grassy tanning plants. The conference showed the necessity of introduction into commercial cultivation in Uzbekistan and in the Southern Kazakhstan of tanning bistort. It is recommended to investigate the

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USSR / Cultivated Plants. Technical, Oleaceous, Sugar Bearing M-6  
 Plants.

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58683

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Caucasian expedition of the Section of Plant Resources of the  
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1. Botanicheskiy institut imeni V.L. Komarova Akademii nauk SSSR,  
Leningrad.  
(Caucasus--Botany, Economic)

CODE/TYPE : USSR  
CATEGORY : Cultivated Plants. Industrial. Oleiferous. M  
BY. JOUR. : RZhKhrol., No. 3, 1959, No. 11037  
  
AUTHOR : Sokolov, P. D.  
INST. : Botanical Institute, AS USSR  
TITLE : An Investigation of the Tannin-bearing Properties of Rhododendron aureum Georgi.  
  
TOPIC, JUR. : Botan. zh., 1958, 43, No. 3, 437-443  
  
ABSTRACT : The golden rhododendron (Rhododendron aureum Georgi) is encountered in the mountain regions of Eastern Siberia, Pribyikal'ye, Zabaykal'ye and the Far East. The Department of Plant Resources of the Botanical Institute, AS USSR, has discovered 14.5% of tannin in the leaves of the golden rhododendron gathered in the Central Sayany. The extract obtained from the stored raw material approaches with respect to the physico-chemical properties, the best tannin producer - quebracho. The golden rhododendron gathered on the ridge Khamar-Daban contains in

CAPP: 1/2

-97-

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no.9:1328-1333 S '59. (MIRA 13:2)

1. Botanicheskiy institut im. V.L.Komarova AN SSSR, Leningrad.  
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FEDOROV, Al.A., doktor biologicheskikh nauk; SOKOLOV, P.D., kand.biol.nauk

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(Turkmenistan---Botany) (Tanning materials)

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Tannin content of certain plants of the Sakhalin Island. Trudy  
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(Sayan Mountains--Botany, Economic) (Tannins)

WYCHI M., P.D.

The Sayan expedition of 1959 organized by the Botanical Institute  
of the Academy of Sciences of the U.S.S.R. Bot. zhur. 46 no.1:154-158  
Jan '61. (MIRA 14:3)

L. Botanicheskiy institut im. V.L.Komarova Akademii nauk SSSR,  
Leningrad.  
(Sayan Mountains--Botany, Economics)